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10/801,937	03/16/2004	Andrew Longacre JR.	703-006.50.22	4710

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EXAMINER

LE, THIEN MINH

ART UNIT PAPER NUMBER

2876

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,937

Applicant(s)

LONGACRE ET AL.

Examiner

Thien M. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

The preliminary amendment filed on 3/18/2004 and 8/30/2004 have been entered. Claims 1-15 have been canceled. Claims 16-21 and newly added claims 22-51 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth et al. (herein after referred as Roth – 5,818,528) in view of Poland (Poland – 4,761,544) and Blanford (Blanford – 4,868,375).

Regarding claims 16, 19, 22, Roth discloses a hand held bar code reader 10 comprising an electronic scanning camera 65. In the descriptions of figure 8 (col. 14, lines 50-68 and col. 15, lines 1-25), Roth discloses that "because a CCD camera captures a two-dimensional image or "snapshot" and provides image data to a decoding algorithm, a label reading device employing a CCD camera is as versatile as the decode algorithms programmed in the label reader". Roth further discloses that "the CPU board includes 512 Kbytes of EPROM 230, which is used to store the basic operating system and the decoding software. The operating system and decode algorithms can be upgraded or modified by providing new EPROM devices". In the descriptions of figure 10, Roth discloses a microprocessor 225 that reads the stored label image data from the video RAM 185 and decodes the label data. According to Roth, "the decoding of the stored digital image data is accomplished by applying a stored decoding algorithm to the digital image data. Those skilled in the art will appreciate that the decoding algorithm must be designed for the particular information indicia captured by the CCD camera. Therefore, if the label reader is to be used to

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read bar codes, the appropriate bar code decoding algorithm must be stored in the microprocessor's EPROM 230. Likewise, if the data terminal will be used in conjunction with packages bearing two-dimensional symbologies, the appropriate decoding algorithm must be provided in the decoder. Those skilled in the art will appreciate that the information indicia captured by the CCD camera are not limited to bar codes and two-dimensional symbologies, but may also include printed or hand-written text that is readable by optical character recognition (OCR) techniques. It is possible to provide a plurality of decoding algorithms so that the data terminal can be used to read and decode any of a wide variety of various information indicia." Roth further discloses that "those skilled in the art will also appreciate that several steps may be required to decode the digital image data. For example, the decode algorithm will first need to determine whether the captured image includes a recognizable type of information indicia. If so, the algorithm may need to determine the-orientation of the information indicia, and, if necessary, rotate the data to align the information indicia with a desired axis. After all the necessary steps are accomplished and the digital image data is decoded, the decoded data is stored in random access memory (RAM) on the CPU board 85."

With regarding claims 16, 19 and 22, though Roth discloses EPROM devices for storing decoding algorithm, Roth fails to disclose a memory space for storing re-programming software that allows the scanner to be re-programmed.

However, this claimed feature is not new. References to Poland and Blanford are cited as evidence showing the need of providing the software space and the

software for upgrading and/or replacing operating software and/or decoding algorithms without the needs of removing and/or replacing hardware.

Specifically, Poland discloses a decoder 30 (figure 30) in which a method of scaling and compensating wand time intervals as they are acquired by the decoding hardware so that the resulting range of time interval values is equivalent to the range for a laser, and the apparent acceleration effects on the time interval data are greatly reduced or eliminated. Then wand data may be decoded with the routines that are used to decode laser data. Since wand data decoding routines are no longer necessary, program memory space is saved. Since the range of values of the time intervals is limited, fewer bits are needed to represent them, so data memory space is saved. Finally, execution time for decoding is saved because decoding routines that handle numbers represented by fewer bits run more quickly, and acceleration compensation routines need not be distributed among the decoding algorithms for separate bar code types. The savings in memory space and execution time are advantageous even in a wand decoder system that does not include the capability of handling laser scanner output, because more features and decoding functions can be added to the system without adding more hardware.

In additional, Blanford discloses in col. 5 a list of functions that can be programmed into the reader. Blanford further discloses that other functions of a bar code reader or other apparatus could be controlled by a function symbol, such as enabling or disabling of the capability of reading different bar codes, changing bar code decode algorithms, and changing host interface logic to allow communication with a

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multitude of different host systems. In a preferred embodiment, the bar code reader 20 can store the various function settings in a non-volatile memory, such as a battery-backed random access memory or an electrically erasable or programmable read only memory, in order to allow removal of power from the reader 20 while still maintaining the correct function settings.

It would have been obvious to incorporate the teachings of Poland and Blanford in the system as taught by Roth.

The modifications allow the reader to be programmed with new decoding algorithms and parameters without replacing hardware; and thus increasing versatility of the system.

Regarding claims 17, 20, 23, 26, , see the discussions above regarding claim 16. Roth also discloses a bar code reader 10 for reading and decoding 1D/2D bar codes. Thus, the combined teachings of Roth/Poland/Blanford, in view of the modifications above and the teaching of the step of updating and modifying decoding algorithms, would embrace all limitations set forth in these claim.

Regarding claims 18, 21, 24, 27, see the discussions regarding claim 16.

Regarding claim 25, see the discussions regarding claim 16. As to the claimed 2D CCD, see the descriptions of figure 5 of Roth. Regarding the processor and the I/O port, see figure 8 of Roth.

Regarding claims 26-31, see the discussions above regarding claims 116-25. Further, Roth discloses the use of a RAM for temporary storage of scanner application programs.

Regarding claims 32-51, see the discussions regarding claims 1-31. The claim differs in calling for specific decoding algorithms, and specific reading-decoding options. Though Roth is silent about the specifics of the decoding algorithms and reading/decoding relationships, the examiner is of the view that by disclosing multiple algorithms for decoding 1D/2D barcodes, the underlying inventiveness concepts of Roth teachings are not limited to any specific reading/decoding techniques. Further, since Roth discloses the use of various decoding algorithms, the steps of providing One Shot or Repeat Unstill Done options would have been embraced by his teachings by ensuring all decoding algorithms are tried or for scanning operation of a know bar code type (see the descriptions of step 330 of figure 10).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thien M. Le whose telephone number is (571) 272-2396. The examiner can normally be reached on Monday - Friday from 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Le, Thien Minh
Primary Examiner
Art Unit 2876
March 29, 2005

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